

Claims

1. Propulsion system for ships and other mobile marine structures, with a driving machine (17) for the running of an electrical generator (14), which is further connected to an electrical propulsion motor (11) with connection to a propeller (12) or similar propulsion device,

5 **characterized in that**

- the generator (14) and the propulsion motor (11) are permanently magnetized synchronous machines,
- the two synchronous machines have substantially the same operating characteristics, and

10 - they are directly connected together with a rigid electrical connection.

2. Propulsion system according to claim 1, **characterized in that** the ratio between the numbers of poles in the generator and the propulsion motor can be from 3:1 to 1:20, preferably so that the generator (14) has a lower number of poles than the propulsion motor (11).

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3. Propulsion system according to claim 1 or 2, **characterized in that** it comprises a frequency converter (16) that feeds a consumption network with stable frequency from the generator (16).

20 4. Propulsion system according to claim 1 or 2, **characterized in that** it comprises an auxiliary generator (19), which is run by the driving machine (17) and which feeds the consumption network of the vessel (15) through a frequency converter (16).

25 5. Propulsion system according to any one of claims 1 to 4, **characterized in that** it comprises an auxiliary converter (18), which is used for starting and for control of the direction of rotation, as the driving machine (17) is arranged for being run with reduced rotational speed, for instance about half rotational speed, for synchronizing from reduced frequency, when the auxiliary converter and the generator are parallel-coupled.